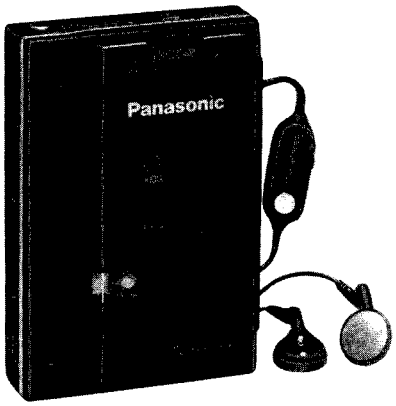
ORDER NO. AD8901012C2

Service Manual

Cassette

Stereo Cassette Player

RQ-P525



Color

(K) ..... Black Type

Area

Country Code	Area	Color
(E)	Continental Europe.	(K)
(EB)	United Kingdom.	
(EG)	F.R. Germany.	
(EO)	Switzerland.	

■ RQ-JA160 MECHANISM SERIES

■ SPECIFICATIONS

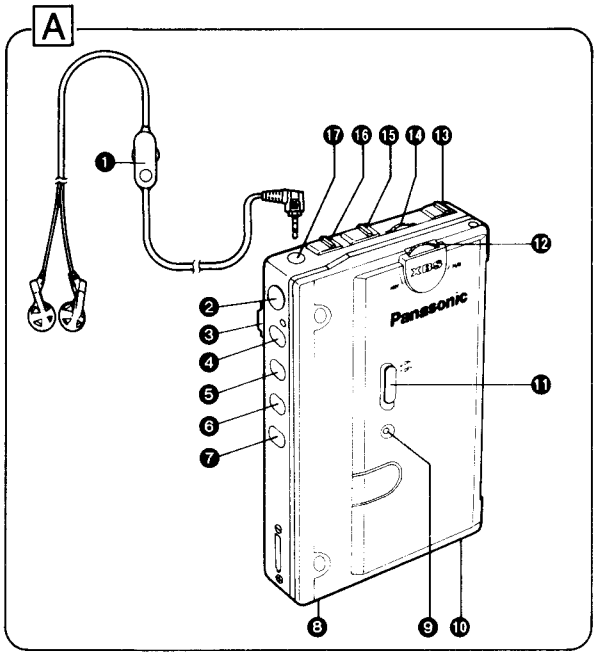
Power Requirement:	Included Rechargeable Battery; 1.2 V Battery; 1.5 V (one R6P/LR6, "UM-3" battery) AC; 220 V, 50 Hz with optional AC adaptor RPAC1Z (For UK, 240 V, 50 Hz with optional AC adaptor RPAC1ZE)
Power Output:	20 mW (10 mW×2)...RMS (max.)
Frequency Response:	20~18,000 Hz (Normal/CrO_2/METAL)
Tape Speed:	4.8 cm/s
Track System:	4-track 2-channel stereo
Jacks:	
Input;	DC IN; 1.5 V (mini jack)
Output;	HEADPHONES; 16Ω (∅3.5)
Demensions:	
(W×H×D)	74.3×106.8×25 mm
Weight:	193 g with rechargeable battery
Charger:	Input; AC 220 V, 50 Hz, 5 W (For UK, AC 240 V, 50 Hz, 5 W) Output; DC 350 mA 1.2 V

Weights and dimensions shown are approximate.
Design and specifications are subject to change without notice.

Panasonic

Matsushita Electric Industrial Co., Ltd.
Central P.O. Box 288, Osaka 530-91, Japan

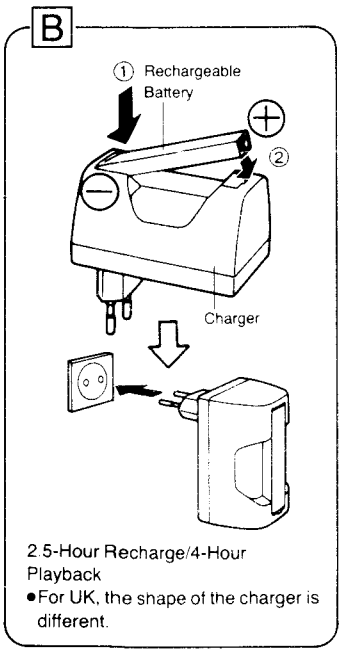
LOCATION OF CONTROLS

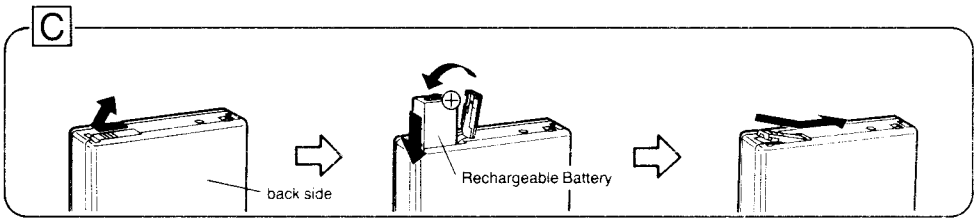


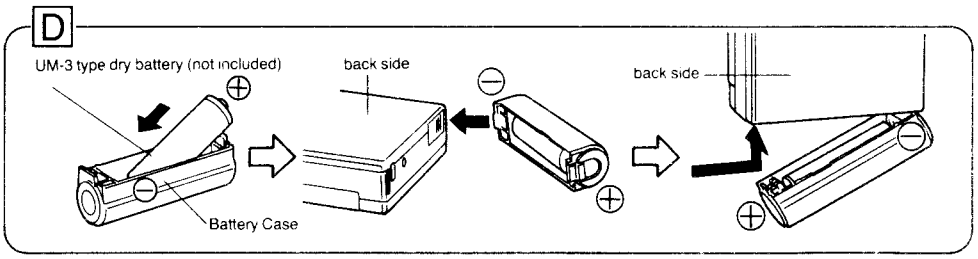
LOCATION OF CONTROLS (Refer to A.)

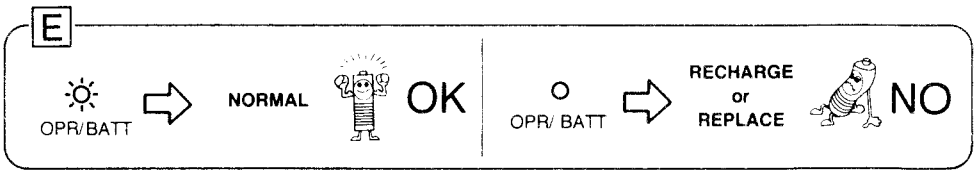
1. **Remote Control Button**
2. **Push Open Button (PUSH OPEN)**
3. **Hold Switch (HOLD)**
4. **Playback/Direction Button (◀▶ PLAY/DIR)**
5. **Stop Button (■ STOP)**
6. **Fast Forward Button (FF)**
7. **Rewind Button (REW)**
8. **Rechargeable Battery Compartment Cover**
9. **Operation/Battery Check Indicator (OPR/BAT)**
10. **DC Input Jack (DC IN 1.5 V ⊖-⊙-⊕)**
    - Optional AC adaptor, RPAC1Z
      For UK, use optional AC adaptor RPAC1ZE.
11. **XBS (Extra Bass System) Switch (XBS)**
12. **XBS Level Control**
13. **Reverse Mode Selector (REV MODE)**
14. **Volume Control (VOLUME)**
15. ***Dolby Noise Reduction Switch (DOLBY NR)**
16. **Tape Selector (TAPE)**
17. **Headphones Jack ( ) (∅3.5, 16Ω)**

*Dolby noise reduction manufactured under license from Dolby Laboratories Licensing Corporation. "DOLBY" and the double-D symbol DD are trademarks of Dolby Laboratories Licensing Corporation.









POWER SOURCE

■ Rechargeable Battery Operation

For its initial use after purchasing or its use after a long time interval (more than three months), make sure to recharge the Rechargeable Battery. Normally 2.5 hours recharging makes the approximately 4 hours tape playback possible.

•Recharging the Rechargeable Battery (Refer to B.)

1. Insert the Rechargeable Battery into the Charger, making sure that the proper polarity is maintained.
2. Plug the Charger into your household AC power outlet.
3. Disconnect the Charger in about 2.5 hours.

•Inserting the recharged Rechargeable Battery into the unit.
(Refer to C.)

Notes:
- Do not recharge more than 24 hours, otherwise the Rechargeable Battery life may be shortened.
- On its initial use after purchasing or its use after a long time interval, 2.5 hours recharging may not make normal operation time possible.
  But the repeat of recharging will recover the normal operation time.
- Use only the included Charger when recharging.
- During recharging, the Charger and Rechargeable Battery may have a little heat. But it is normal.
- Avoid recharging or placing the Rechargeable Battery near sources of heat or in the much humid ambiance.
- Do not attempt to recharge UM-3 type alkaline or carbon batteries in the Charger.

Rechargeable Battery Life

This Rechargeable Battery can be recharged about 300 times. Over 300 times, its operation time will become shortened. That's time for replacing the Rechargeable Battery (RP-BP105SY).

When to Recharge the Rechargeable Battery or Replace the Battery (Refer to E.)

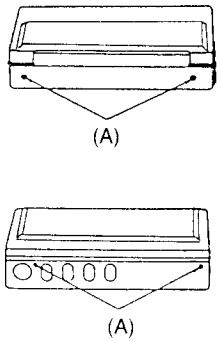
When the battery becomes weak, the tape speed will slow down, the sound will become distorted, and the volume will decrease.

To check the condition of the battery.

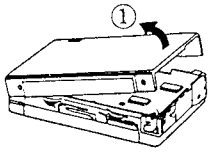
1. Press the Playback/Direction Button.
2. When the Operation/Battery Check Indicator goes out or dims, it is time to recharge the Rechargeable Battery or replace the battery (UM-3 type) with new one.

DISASSEMBLY INSTRUCTIONS

Ref. No. 1	How to remove the Rear Cabinet
Procedure 1	

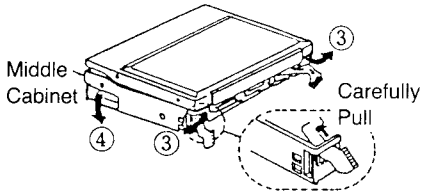


1. Remove 4 screws (A).



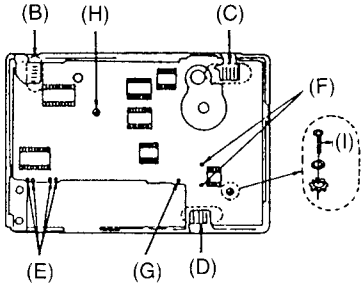
2. Remove the rear cabinet in the direction of the arrow ①.

Ref. No. 3	How to remove the Middle Cabinet
Procedure 1→2→3	

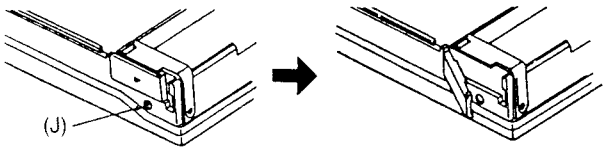


Disengage the ends of the middle cabinet in the direction of arrows ③, and then remove the middle cabinet in the direction of arrow ④.
Take care not to damage the F.P.C.s when removing the cabinet.

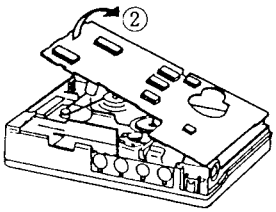
Ref. No. 2	How to remove the P.C.B.
Procedure 1→2	



1. Remove 5 solders (B) and the F.P.C.
2. Remove 5 solders (C) and the F.P.C.
3. Remove 5 solders (D) and the F.P.C.
4. Remove 4 solders (E) on the motor terminals.
5. Remove 2 solders (F) on the plunger terminals.
6. Remove one solder (G) on the battery terminal.
7. Remove one screw (H) (1.4×4) mm.
8. Remove one screw (I) (1.6×9.2) mm.

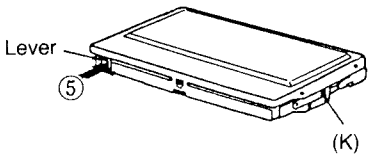


9. Remove one screw (J).
10. Open the battery cover.

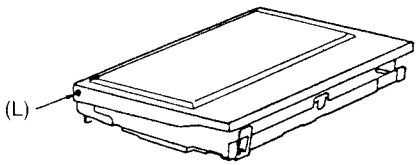


11. Remove the P.C.B. together with the battery compartment lid in the direction of arrow ②.

Ref. No. 4	How to remove the Cassette Compartment Lid
Procedure 1→2→3→4	

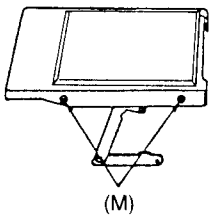


1. Remove one screw (K).
2. Release the cassette compartment lid by pushing the lever in the direction of arrow ⑤.



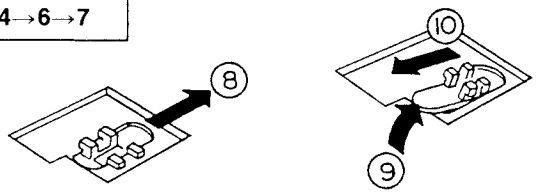
3. Remove one screw (L).

Ref. No. 5	How to remove the Angle
Procedure 1→2→3 →4→5	



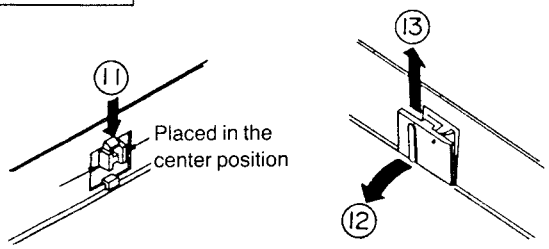
●Remove 2 screws (M).

Ref. No. 7	How to remove the XBS Knob
Procedure 1→2→3 →4→6→7	



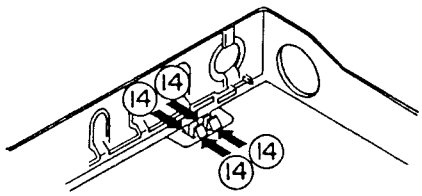
1. Push the XBS button in the direction of arrow ⑧.
2. Pull it in the direction of arrow ⑨ and then arrow ⑩ to remove.

Ref. No. 8	How to remove the TAPE, DOLBY and REV. MODE Knobs.
Procedure 1→8	



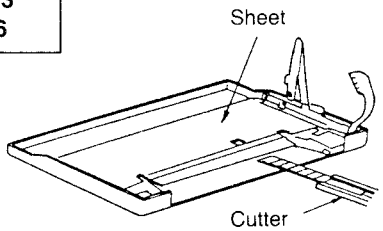
1. With the switch knobs in the center position, push them in the direction of arrow ⑪.
2. Pull them in the direction of arrow ⑫ and then remove them in the direction of arrow ⑬.

Ref. No. 9	How to remove the Hold Knob
Procedure 1→9	

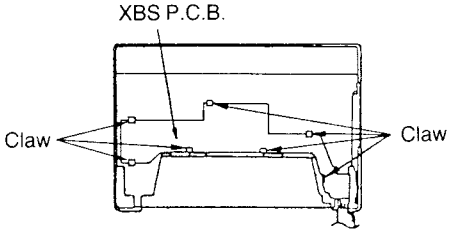


●Push the claw in the direction of the arrows ⑭.

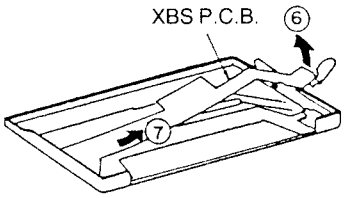
Ref. No. 6	How to remove the XBS P.C.B.
Procedure 1→2→3 →4→6	



1. With a cutter, remove the sheet carefully.
   If the sheet can not be used again, use a new one.

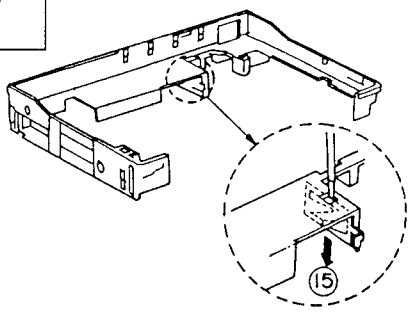


2. Remove 7 claws.



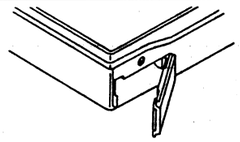
3. Remove the XBS P.C.B. in the direction of the arrow ⑥, ⑦.

Ref. No. 10	How to remove the Battery Terminal
Procedure 1→2→3 →4	

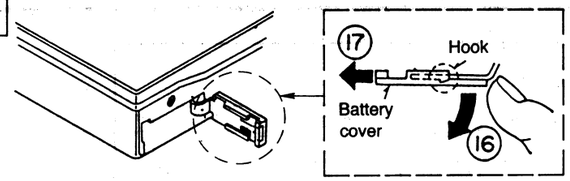


With a regular screwdriver, disengage and then remove the battery terminal (−) in the direction of arrow ⑮.

Ref. No. 11	How to remove the Battery Cover
Procedure 11	

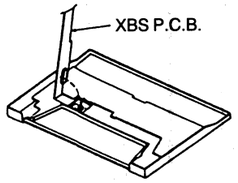


1. Open the battery cover.



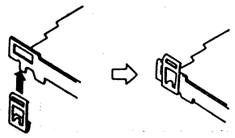
2. Remove the hook in the direction of arrow ⑯ and then remove the Battery cover in the direction of arrow ⑰.

■ HOW TO REPLACE THE XBS P.C.B.

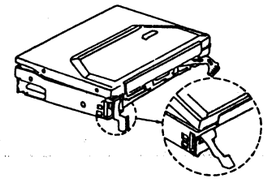


Engage the switch knob with its switch as shown.

■ HOW TO REPLACE THE OPEN LEVER

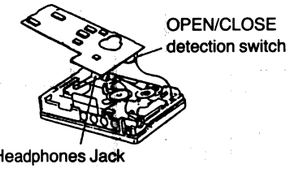


■ HOW TO REPLACE THE MIDDLE CABINET

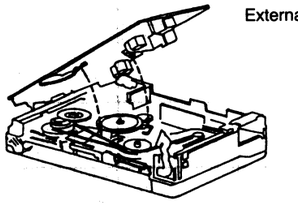


Pass the F.P.C. through the hole in the middle cabinet.

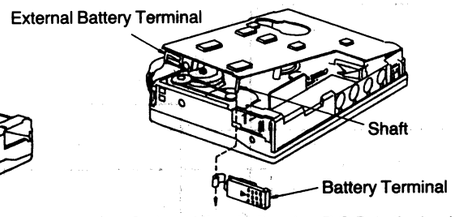
■ HOW TO REPLACE THE P.C.B.



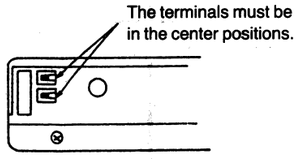
1. Insert the OPEN/CLOSE detection switch of the cassette compartment lid as shown in the figure and then insert the headphones jack into the cabinet.



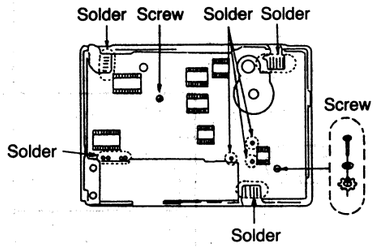
2. Place the P.C.B. so that the switches on it engage with the mechanism.



3. Insert the shaft on the P.C.B. in the hook eye of the battery compartment lid and then reinstall the P.C.B. in the middle cabinet so that the external battery terminal will not be damaged.

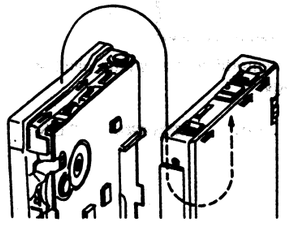


4. After placing the P.C.B., make sure that the terminals are in their center positions. (Otherwise, battery contact will not be optimum.)

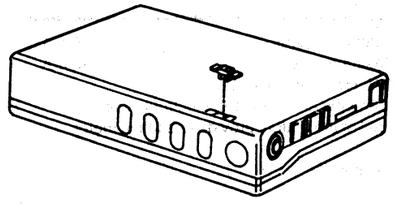


5. Solder each of the points to be soldered.
6. Reinstall and tighten the 2 screws.

■ HOW TO REPLACE THE REAR CABINET



1. Reinstall the cabinet so that the switches engage with their knobs.



2. Reinstall the hold knob so that it engages with its switch.

■ How to disassemble the unit when checking the operation of the mechanism

1. Remove the P.C.B. following the removal procedures.
2. With the P.C.B. tilted, solder points Ⓐ and Ⓑ and make the connections of Ⓒ and Ⓓ as shown in Fig. 1.
3. After the connections and solders above are made. If any of the buttons other than the Stop button (shown in Fig. 1-Ⓔ) are pressed, the motor will rotate.

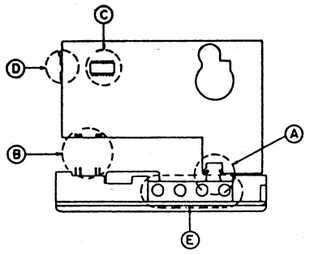


Fig. 1

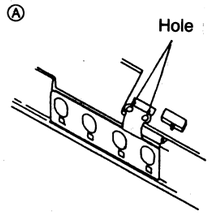


Fig. 1-Ⓐ

•With the holes in the F.P.C. and the holes in the P.C.B. aligned as shown, solder the F.P.C. to its corresponding points on the P.C.B.

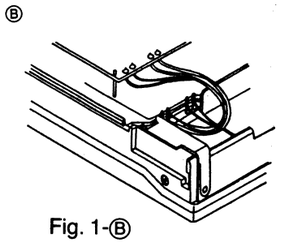


Fig. 1-Ⓑ

•Connect the motor terminals to the P.C.B. with a flat cable or lead wires.

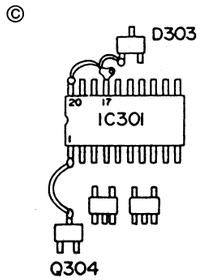


Fig. 1-Ⓒ

•Shortcircuit the points shown in the figure with lead wires.

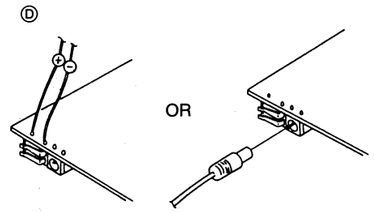


Fig. 1-Ⓓ

•Connect the power supply (+1.5 V) to the extension battery terminals or DC IN jack.

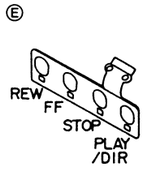
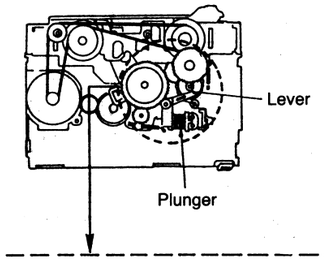
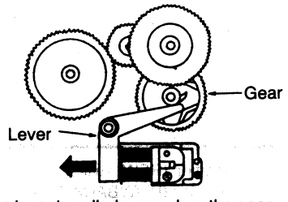


Fig. 1-Ⓔ

•If any of the operation buttons, with the exception of the Stop button, are pressed, the motor will rotate.

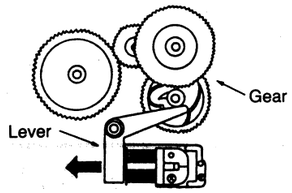


(Position of the Gear in the Fast Forward Mode)



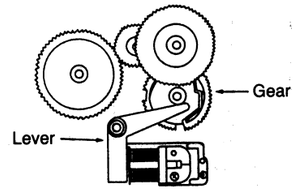
•If the lever is pulled once when the gear is in the position above, the operational mode will change to reverse playback.

(Position of the Gear in the Reverse Playback Mode)



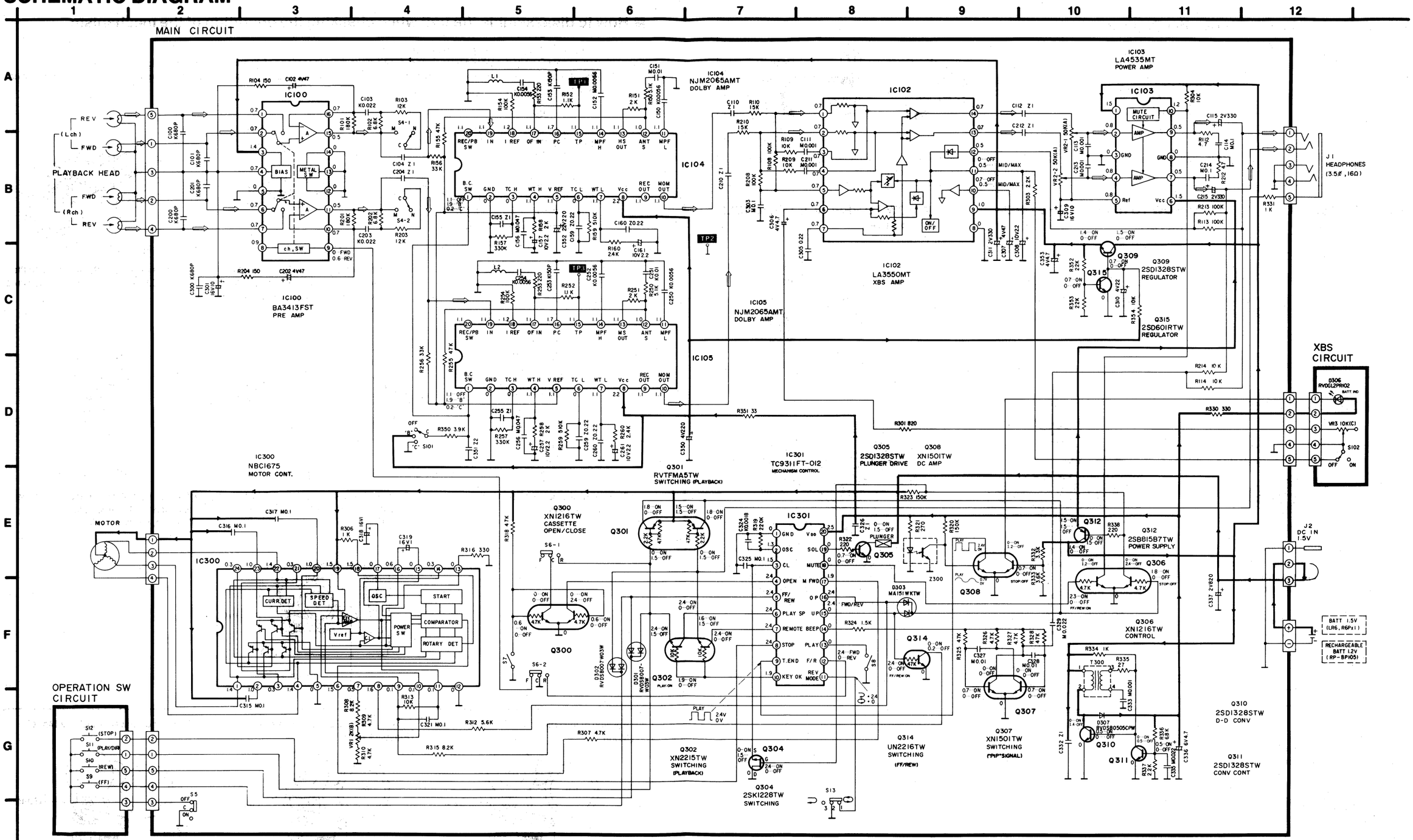
•If the lever is pulled once when the gear is in the position above, the operational mode will change to fast forward.

(To Set the Forward Playback Mode)



•After the lever is pulled once in the fast forward mode and the gear is in the position above (before the mode is changed to reverse playback), if the lever is pulled again, the mode will change to forward playback.

SCHEMATIC DIAGRAM



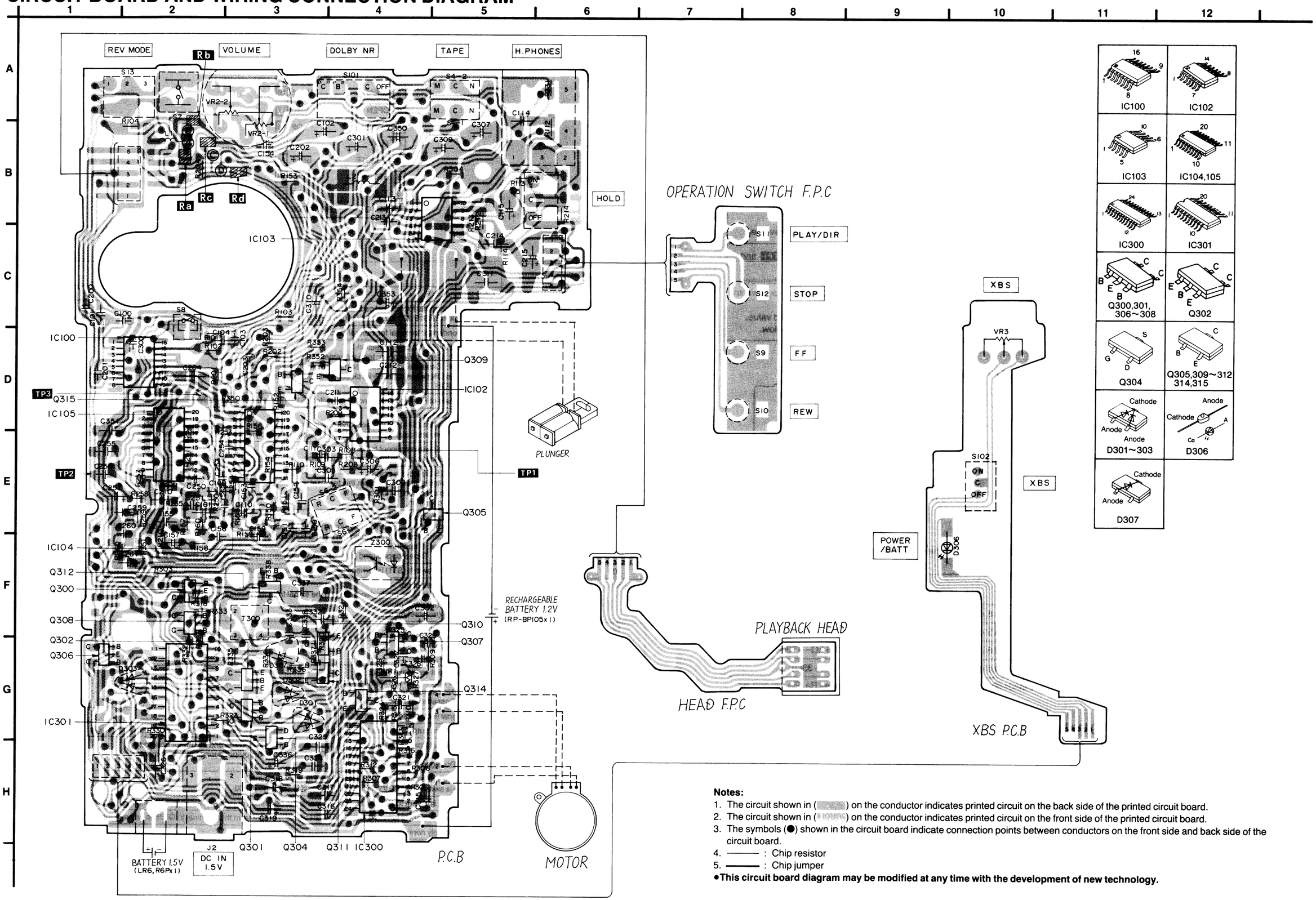
Notes:

1. S4-1, S4-2 : Tape select switch in "NORMAL" position. (N...NORMAL, M...CrO_2/METAL)
2. S5 : Hold switch in "OFF" position.
3. S6-1, S6-2 : FWD/REV switch in "FWD" position. (F...FWD, R...REV)
4. S7 : Cassette compartment open/close detect switch in "OPEN" position.
5. S8 : Playback mode switch.
6. S9 : Operation (FF) switch.
7. S10 : Operation (REW) switch.
8. S11 : Operation (PLAYBACK/DIRECTION) switch.
9. S12 : Operation (STOP) switch.
10. S13 : Reverse mode switch.
11. S101 : Dolby NR switch.
12. S102 : XBS switch.
13. VR1 : Tape speed adjustment VR.
14. VR2-1, VR2-2 : Volume control VR.
15. VR3 : XBS level control VR.
16. Battery current: Minimum output ..... 155 mA
    Maximum output ..... 195 mA
    (315 Hz, 0 dB playback)
17. DC voltage measurements are taken with electronic voltmeter. The negative terminal of the battery provides negative meter connection point.
    No mark...PLAYBACK

•This schematic diagram may be modified at any time with the development of new technology.

...PLAYBACK SIGNAL LINE ...+B LINE

CIRCUIT BOARD AND WIRING CONNECTION DIAGRAM

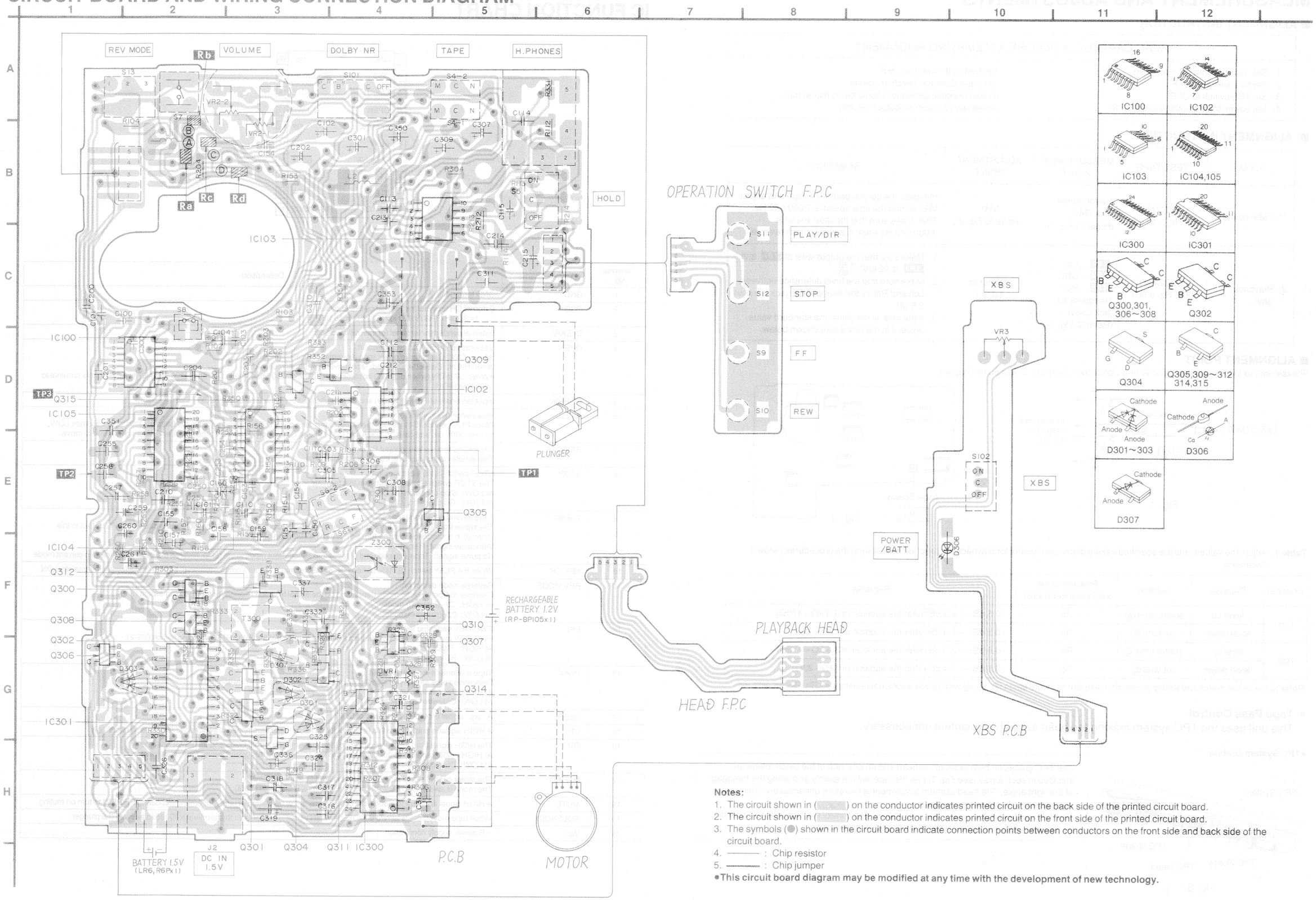


Notes:

1. The circuit shown in ( ) on the conductor indicates printed circuit on the back side of the printed circuit board.
2. The circuit shown in ( ) on the conductor indicates printed circuit on the front side of the printed circuit board.
3. The symbols (●) shown in the circuit board indicate connection points between conductors on the front side and back side of the circuit board.
4. ——— : Chip resistor
5. ——— : Chip jumper

•This circuit board diagram may be modified at any time with the development of new technology.

CIRCUIT BOARD AND WIRING CONNECTION DIAGRAM



Notes:

1. The circuit shown in ( ) on the conductor indicates printed circuit on the back side of the printed circuit board.
2. The circuit shown in ( ) on the conductor indicates printed circuit on the front side of the printed circuit board.
3. The symbols (●) shown in the circuit board indicate connection points between conductors on the front side and back side of the circuit board.
4. ——— : Chip resistor
5. ——— : Chip jumper

•This circuit board diagram may be modified at any time with the development of new technology.

MEASUREMENT AND ADJUSTMENTS

■ ALIGNMENT INSTRUCTION

READ CAREFULLY BEFORE ATTEMPTING ALIGNMENT	
1. Set volume control to maximum. 2. Set hold switch to OFF. 3. Set XBS switch to OFF. 4. Set power source voltage to 1.5 V DC.	5. Set Dolby NR switch to OFF. 6. Set Tape Selector Switch to normal. 7. Output of signal generator should be no higher than necessary to obtain an output reading.

■ ALIGNMENT INSTRUCTION

ITEM	TEST TAPE	MEASUREMENT POINT	ADJUSTMENT POINT	REMARKS
1) Tape speed	QZZCWAT (3 kHz, −10 dB)	Headphones jack (24Ω) (Refer to Fig. 1)	VR1 (Refer to Fig. 2)	Playback the central part of the tape and adjust VR1 so that the tape speed is 3,000±30 Hz. Then make sure that the tape speed is 3,000±60 Hz when it is played back reverse.
2) Playback gain	QZZCFM (315 Hz, 0 dB)	TP1 ...Lch TP2 ...GND TP3 ...Rch Headphones jack (24Ω) (Refer to Fig. 1)	Refer to table 1	1. Make sure that the output level of TP1 and TP3 is 22 mV$^{+3\,dB}_{-1\,dB}$. 2. Make sure that the level difference between Lch and Rch of the headphones jack is within 2.5 dB. 3. If the level is not within the standard value, adjust it in the procedure shown below.

■ ALIGNMENT POINT

*Please refer to the Circuit Board and Wiring Connection Diagram for test point locations.

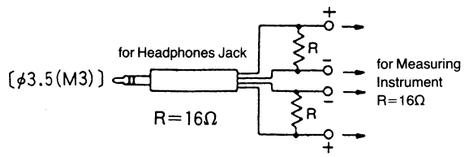


Fig. 1

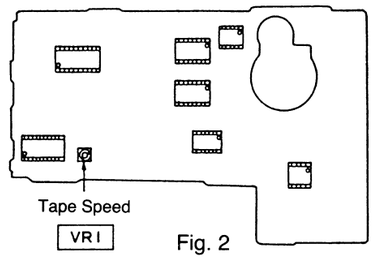


Fig. 2

Table 1. Adjust the values until the specified values of the gain control for playback are reached by following the procedures below if necessary.

Channel	Purpose	Landing	Position of the additional resistance	Remarks
Lch	level up	solder land Ⓐ	Ra	+0.5 dB~+2.3 dB (after the addition of 3.3 kΩ~470Ω)
	level down	cut land Ⓑ	Rb	−0.5 dB~−1.4 dB (after the addition of 12Ω~33Ω)
Rch	level up	solder land Ⓒ	Rc	+0.5 dB~+2.3 dB (after the addition of 3.3 kΩ~470Ω)
	level down	cut land Ⓓ	Rd	−0.5 dB~−1.4 dB (after the addition of 12Ω~33Ω)

*Refer to the circuit board and wiring connection diagram to locate lands Ⓐ, Ⓑ, Ⓒ and Ⓓ and additional resistances Ra, Rb, Rc and Rd.

* Tape Pass Control

This unit uses the TPC system making the head azimuth adjustment unnecessary.

•TPC System Outline

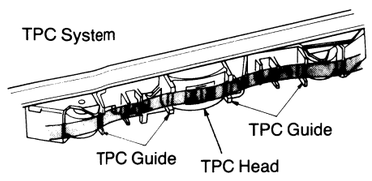
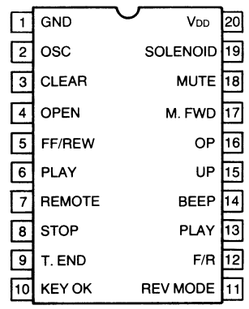


Fig. 3

The TPC guides on both sides of the head and on one side of the pinch rollers are installed in such a way (see Fig. 3) that the tape will run evenly and along the headgap at the right angle. The head azimuth adjustment is therefore unnecessary; there are no head azimuth adjustment screws.
The TPC guides on one side of the pinch rollers also control the disturbance caused by the tape width and speed in the forward and reverse mode.

IC FUNCTION CHART



Terminal No.	Terminal name	Description
1	GND	GND terminal.
2	OSC	External CR terminal for internal oscillator circuit. f=3.2 kHz (R319 220 kΩ, C324 0.0018 μF)
3	CLEAR	External condensor terminal for internal clock.
4	OPEN	Cassette lid OPEN/CLOSE detection. When LOW: Cassette lid open; tape movement signal not received. When HIGH: Cassette lid closed; tape movement signal received. •When S7 is ON (when cassette lid closed), the base of Q300 becomes LOW and Q300 turns OFF, causing this terminal to become HIGH.
5	FF/REW	Input terminals of FF switch (S9) and REW switch (S10) (at the time of ON: LOW)
6	PLAY	Play switch (S11) input terminal. When PLAY switch (S11) is ON, the signal to this terminal is LOW and the signal to the base of Q301 also becomes LOW, turning Q301 on, and causing Q306 and Q312 to turn ON, supplying power to the circuit and causing the tape to move.
7	REMOTE	Remote control switching input terminal. The remote control signal is input from this terminal.
8	STOP	STOP switch (S12) input terminal. The STOP switch signal is input from this terminal. At LOW: Stop condition (STOP button is ON). At HIGH: Go condition.
9	T. END	Tape turning detection terminal. The signal from Z300 (tape turning/not turning) is input to Q308 (switching transistor) and a pulse signal is output to this terminal in accordance with the turning/not turning condition of the tape. With pulse signal: Tape turning. No pulse signal: Tape stopped (end of tape) and subsequent mode is set (stop, reverse play, etc.) according to current mode.
10	KEY OK	When the PLAY switch (S11) is turned ON, a HIGH signal is output from this terminal, turning Q302 (switching trasistor) ON.
11	REV MODE	Reverse mode detection. Changes to/from reverse mode depending on the signal from the reverse mode switching switch (S13). At HIGH: ⊃ (forward) mode. At LOW: ⊂⊃ (reverse) mode.
12	F/R	FWD/REV switching terminal. FWD/REV movement switches depending on the signal from the FWD/REV switching switch (S6-2). At HIGH: FWD. At LOW: REV.
13	PLAY	Tape movement verification input. Determines tape movement standby according to signal from PLAY switch (S8). At HIGH: No cassette tape. At LOW: Cassette tape ready.
14	BEEP	A "pip" signal is output to the base of Q307.
15	UP	A HIGH signal is output from this terminal during FF, and the tape speed is switched to fast speed accordingly.
16	OP	The HIGH signal from this terminal during tape movement controls Q306 and the motor governor. At HIGH: Q306 and the motor governor turn ON according to this output during tape movement. At LOW: During tape stop.
17	M. FWD	The motor control signal for REV mode is output from this terminal. The mode is switched to REV only when HIGH level is output to IC300.
18	MUTE	A HIGH signal is output to Q306 from this terminal at the beginning of tape movement and during FF/REW to turn on muting.
19	SOLENOID	When tape movement is turned ON/OFF, a HIGH signal is output from this terminal to Q305 to activate the plunger.
20	VDD	+B power supply connection.

■ REPLACEMENT PARTS LIST

Notes : * Important safety notice :
Components identified by ⚠ mark have special characteristics important for safety. When replacing any of these components use only manufacturer's specified parts.
* Bracketed indications in Ref. No. columns specify the area. (Refer to the first page for area.)
Parts without these indications can be used for all areas.

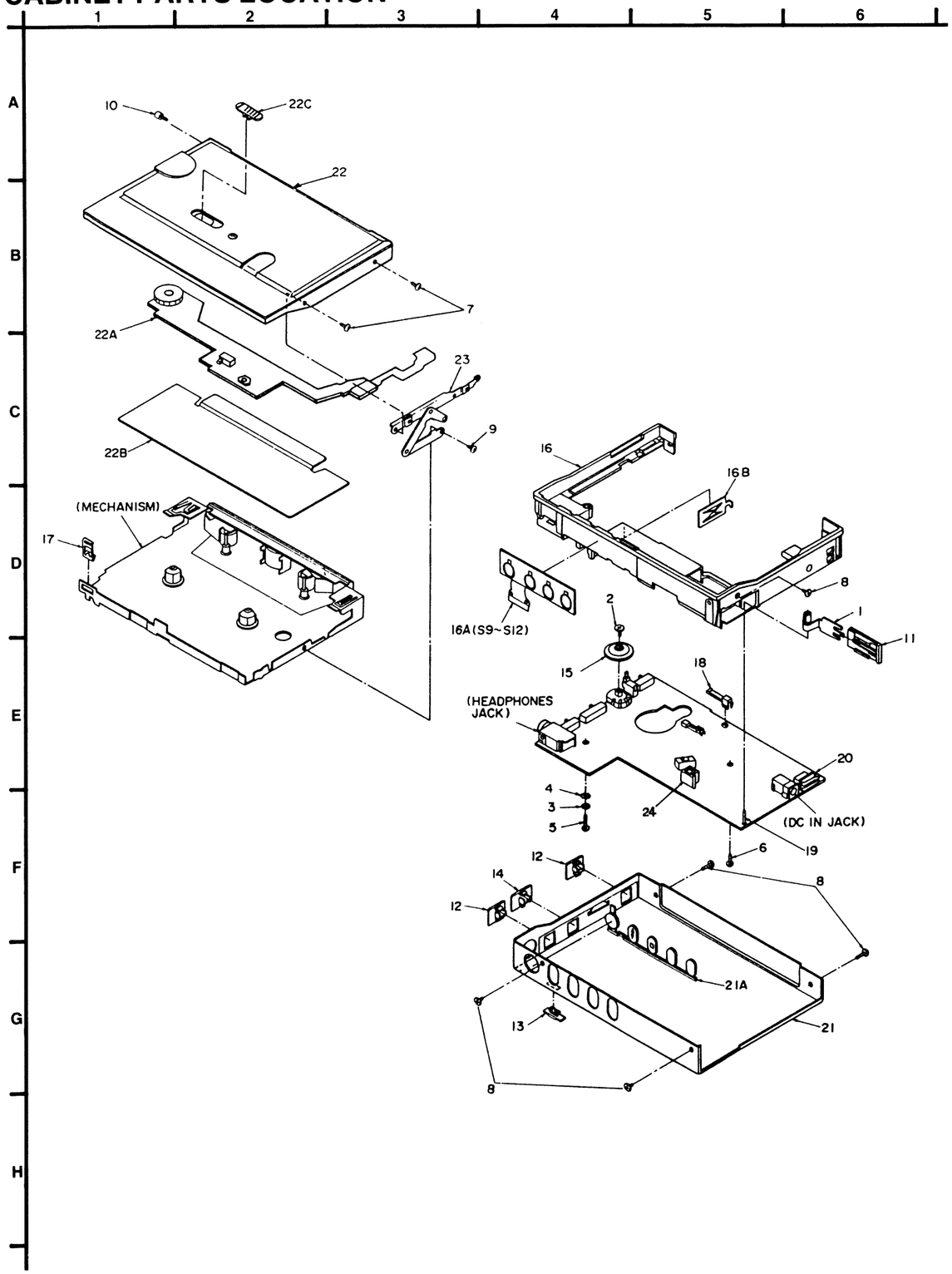
Ref. No.	Part No.	Description
INTEGRATED CIRCUITS		
IC100	BA3413FST	I.C. PRE AMP
IC102	LA3550MT	I.C. XBS AMP
IC103	LA4535M	I.C. POWER AMP
IC104	NJM2065AMT	I.C. DOLBY
IC105	NJM2065AMT	I.C. DOLBY
IC300	NBC1675	I.C. MOTOR CONT.
IC301	TC9311FT-012	I.C. MECHA CONT.
TRANSISTORS		
Q300	XN1216TW	TRANSISTOR
Q301	RVTFMA5TW	TRANSISTOR
Q302	XN2215TW	TRANSISTOR
Q304	2SK1228TW	TRANSISTOR
Q305	2SD1328STW	TRANSISTOR
Q306	XN1216TW	TRANSISTOR
Q307	XN1501TW	TRANSISTOR
Q308	XN1501TW	TRANSISTOR
Q309	2SD1328STW	TRANSISTOR
Q310	2SD1328STW	TRANSISTOR
Q311	2SD1328STW	TRANSISTOR
Q312	2SB815B7TW	TRANSISTOR
Q314	UN2216TX	TRANSISTOR
Q315	2SD601R	TRANSISTOR
DIODES		
D301	RVDSB007W03W	DIODE
D302	RVDSB007W03W	DIODE
D303	MA151WK	DIODE
D307	RVDSB0505CPW	DIODE
D501	RVDSLN210RCS	DIODE, SI
VARIABLE RESISTORS		
VR1	RVNEA23B1W-F	V.R. TAPE SPEED
VR2	EVUBAAT50A54	V.R. VOLUME
VR3	EVUTQAA00C14	V.R. XBS
PHOT COUPLER		
Z300	RVSGP2S09BC	COMPONENT COMBINATION
COILS AND TRANSFORMERS		
L1	RLCF120J-D	COIL
L2	RLCF120J-D	COIL
T300	RL09A015-T	COIL
SWITCHES		
S4	RSS2B56XA-A	SW. TAPE
S5	RSS2A61YA-L	SW. HOLD
S6	RSS2B71ZA-M	SW. FWD/REV
S7	RSH1A91ZA-A	SW. OPEN/CLOSE
S8	RSH1A96ZA-U	SW. PLAY
S9	RSHX087ZB	SW. FF
S10	RSHX087ZB	SW. REW
S11	RSHX087ZB	SW. PLAY/DIR
S12	RSHX087ZB	SW. STOP
S13	RSS2B56XA-A	SW. REV MODE
S101	RSS3B32Z	SW. DOLBY
S102	RSS2A61YA-L	SW. XBS
OTHERS		
J1	RJJD5S3MZA-C	JACK, HEADPHONES
J2	RJJB6ZA-C	JACK, DC IN

Ref. No.	Part No.	Description
CABINET AND CHASSIS		
1	RJC99013ZA	BATTERY TERMINAL
2	XSHR17+2FZ	SCREW
3	XWA17BFY	WASHER
4	XWC2B	WASHER
5	XQN16+C92FN	SCREW
6	RHE5079Z	SCREW
7	RHE5097Z	SCREW
8	RHE5155YA	SCREW
9	RHE5185ZA	SCREW
10	RHE5206YA	SCREW
11	RKK346ZA-0	BATTERY COVER
12	RBD534ZA-0	KNOB, TAPE/REV MODE
13	RBD547YA-0	KNOB, HOLD
14	RBD556ZA-0	KNOB, DOLBY
15	RBT325ZA-0	KNOB, VOLUME
16	1KMAP525ZA	CABINET BODY
16A	RSHX087ZB	SW. MECHANISM
16B	RJC99012ZA	BATTERY TERMINAL
17	RUS754ZD	SPRING
18	RHR3377ZA	HOLDER
19	RDF3147ZA	SHAFT
20	RJT911ZA	TERMINAL
21	K1KFBP525ZAK	REAR CABINET ASS'Y
21A	RBC1305ZC-1	BUTTON
22	RYPQP525E	CASSETTE PANEL ASS'Y
22A	2UPAP525ZA	P.C.B ASS'Y(W/SW, VOL)
22B	RHR3387ZA	KEY.PIN
22C	RBD561ZA-0	KNOB, XBS
23	1ULAP525ZA	ANGLE
24	RHR1375ZA	HOLDER

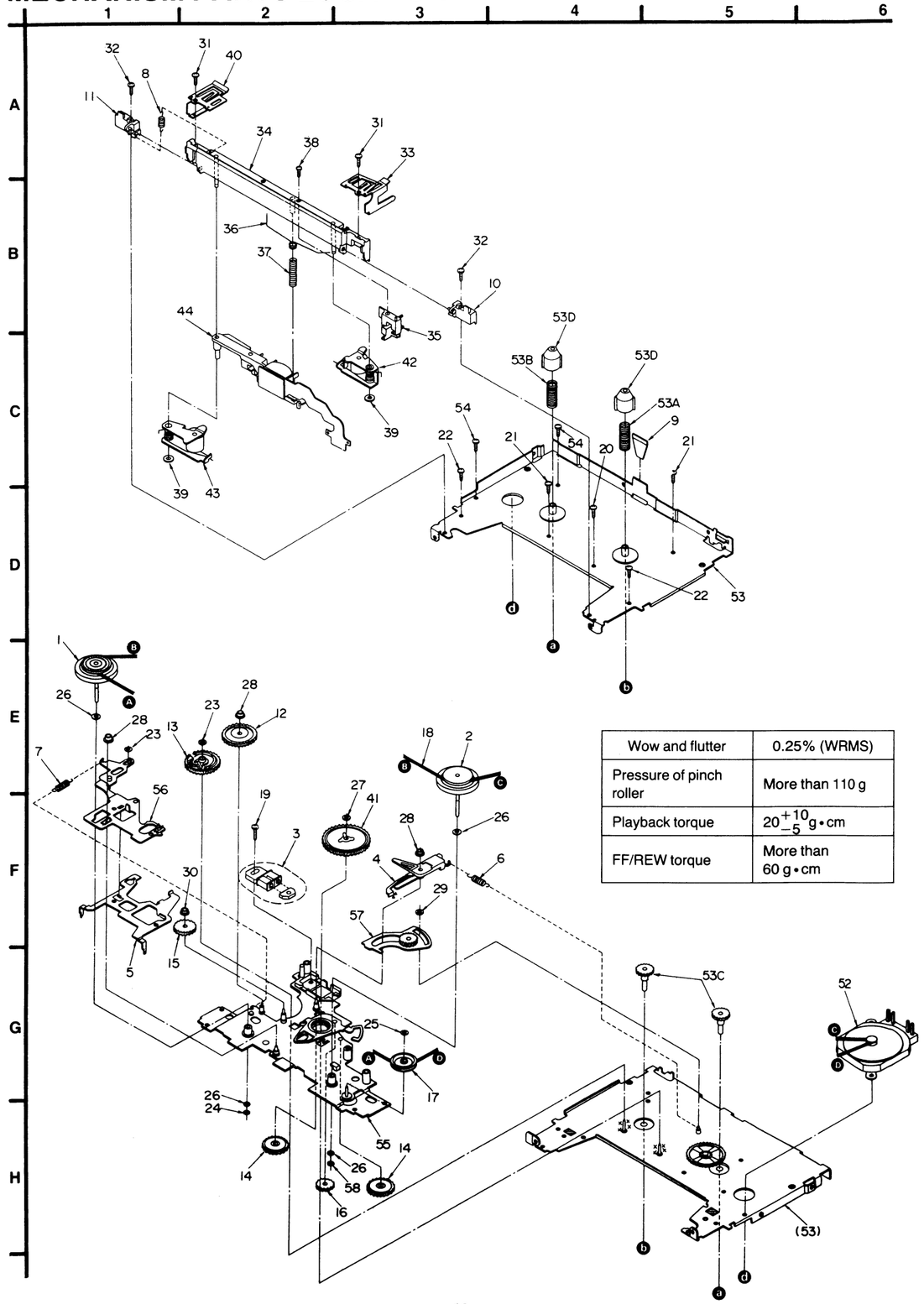
Ref. No.	Part No.	Description
PACKING MATERIAL		
P1	RPH647ZA	PAD
P2	RPQ0020	SLEEVE
P3	RPN0094	CUSHION
P4	RPK0041	GIFT BOX
ACCESSORIES		
A1	RP-BA500SY-4	BATTERY CASE
A2 ⚠ (EB)	RP-BC155ZER0	BATTERY CHARGER
A2 ⚠ [E, EG, ED]	RP-BC155ZR-0	BATTERY CHARGER
A3 ⚠	RP-BP105SY-0	RECHARGEABLE BATTERY
A4	RP-HV138SY-0	HEADPHONE
A5	LR6P	BATTERY
A7	RQT0008E	INST.MANUAL
A8	RQD261ZD-0	CARRYING CASE

Ref. No.	Part No.	Description
MECHANISM		
CASSETTE DECK		
1	1DW0048ZA	FLYWHEEL ASS'Y
2	1DW0049ZB	FLYWHEEL ASS'Y
3	RSE253ZA	SOLENOID
4	RNL193ZD	LEVER
5	RNR71ZD	ROD
6	RUD74ZA	SPRING
7	RUD124ZA	SPRING
8	RUD77ZA	SPRING
9	RUS755ZA	SPRING
10	RMD4029ZB	ANGLE
11	RMD4036ZA	ANGLE
12	RNG136ZA	GEAR
13	RNG138ZB	GEAR
14	RNG70ZB	GEAR
15	RNG72ZA	GEAR
16	RNG75ZA	GEAR
17	RDR143ZA	PULLEY
18	RDV107ZB	BELT
19	XQN14+C3Y	SCREW
20	XQS16+A22FZ	SCREW
21	XQS16+A3FZ	SCREW
22	XQS17+A16FZ	SCREW
23	QBK92125	WASHER
24	RNW100ZA	WASHER
25	RNW101ZA	WASHER
26	RNW125ZB	WASHER
27	RNW131Z	WASHER
28	RHR3131ZA	HOLDER
29	RHR3331ZA	WASHER
30	RHR3366ZB	HOLDER
31	RHE5147ZA	SCREW
32	RHE5168ZA	SCREW
33	RKG228ZC	HOLDER
34	1UL0089ZA	CHASSIS ASS'Y
35	RUG109ZB	SCALE PLATE
36	RUW109ZA	SPRING
37	RUQ67ZA	SPRING
38	XQS16+AJ3	SCREW
39	RNW102ZA	WASHER
40	RKG199ZB	HOLDER
41	1NG0010ZA	GEAR ASS'Y
42	1NL0046ZB	PINCH ROLLER ASS'Y
43	1NL0047ZB	PINCH ROLLER ASS'Y
44	1NL0076ZA	HEAD BLOCK ASS'Y
52	HPX-26NA1A	MOTOR
53	RFU163ZA	CHASSIS ASS'Y
53A	RUQ70ZB	SPRING
53B	RUQ71ZB	SPRING
53C	RNG74ZB	GEAR
53D	RDM25ZA	REEL TABLE
54	XQS17+A16FZ	SCREW
55	1UA0122ZA	CHASSIS ASS'Y
56	1UA0123ZA	CHASSIS ASS'Y
57	1UE0019ZA	GEAR ASS'Y
58	RNW104ZA	WASHER

CABINET PARTS LOCATION



MECHANISM PARTS LOCATION



Wow and flutter	0.25% (WRMS)
Pressure of pinch roller	More than 110 g
Playback torque	20^{+10}_{-5} g•cm
FF/REW torque	More than 60 g•cm

RESISTORS & CAPACITORS

Notes : * Important safety notice :
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Parts without these indications can be used for all areas.

Numbering System For Resistors

Example:

ERD	25	F	J	102
Type	Wattage (1/4W)	Shape	Tolerance	Value (1KΩ)
ERX	2	AN	J	471
Type	Wattage (2W)	Shape	Tolerance	Value (470Ω)

Numbering System For Capacitors

Example:

ECKD	1H	102	Z	F
Type	Voltage (50V)	Value (0.001μF)	Tolerance	Unique
ECEA	50	M	330	
Type	Voltage (50V)	Characteristics	Value (33μF)	

● Capacity values are in microfarads (μF) unless specified otherwise, P = Pico-farads (pF) F = Farads (F).
● Resistance values are in ohms (Ω), unless specified otherwise, 1K = 1,000Ω, 1M = 1,000kΩ

Resistor Type		Wattage		Tolerance
ERD	: Carbon	10 : 1/8W	12 : 1/2W	J : ±5%
ERG	: Metal Oxide	14 : 1/4W	25 : 1/4W	F : ±1%
ERQ	: Fuse Type Metal	1A : 1W	18 : 1/8W	G : ±2%
ERX	: Metal Film	S2 : 1/4W	S1 : 1/2W	J : ±5%
ERD L	: Carbon (chip)	2F : 1/4W	50 : 1/2W	K : ±10%
ERO K	: Metal Film (chip)	2A : 2W	3A : 3W	M : ±20%
ERC	: Solid	6G : 1/10W	8G : 1/8W	
ERF	: Incombustible Box-Shaped			
ERM	: Wire-Wound			
RRJ	: Chip Resistor			
ERJ	: Chip Resistor			

Capacitor Type		Voltage		Tolerance
ECE	: Electrolytic	0J : 6.3V	1A : 10V	K : ±10%
ECCD	: Ceramic	1C : 16V	1E : 25V	M : ±20%
ECKD	: Ceramic Capacitor	1H : 50V	1V : 35V	Z : +80 −20 %
ECQM	: Polyester	50 : 50V	05 : 50V	
ECQP	: Polypropylene	2H : 500V	2A : 100V	J : ±5%
ECG	: Ceramic	1 : 100V	1J : 63V	G : ±2%
ECEA N	: Non Polar Electrolytic	KC : 400V AC		F : ±1%
QCU	: Ceramic (Chip Type)	KC : 125V AC (UL)		C : ±0.25pF
ECUX	: Ceramic (Chip Type)			D : ±0.5pF
ECF	: Semiconductor			
EECW	: Liquid electrolyte double layer capacitor			

Ref. No.	Part No.	Value.
RESISTORS(VALUE,WATTAGE)		
R101	RRJ6GEJ184T	180K 1/10
R102	RRJ6GEJ682T	6.8K 1/10
R103	RRJ6GEJ123T	12K 1/10
R104	RRJ6GEJ151T	150 1/10
R108	RRJ6GEJ104T	100K 1/10
R109	RRJ6GEJ103T	10K 1/10
R110	RRJ6GEJ153T	15K 1/10
R112	RRJ6GCJ4R7TE	4.7 1/10
R113	RRJ6GEJ104T	100K 1/10
R114	RRJ6GEJ103T	10K 1/10
R150	RRJ6GEJ512T	5.1K
R151	RRJ6GEJ202T	2K
R152	RRJ6GEJ112T	1.1K
R153	RRJ6GEJ221T	220 1/10
R154	RRJ6GEJ104T	100K 1/10
R155	RRJ6GEJ473T	47K 1/10
R156	RRJ6GEJ333T	33K 1/10
R157	RRJ6GEJ334T	330K 1/6
R158	RRJ6GEJ202T	2K
R159	RRJ6GEJ514T	510K
R160	RRJ6GEJ242T	2.4K
R201	RRJ6GEJ184T	180K 1/10
R202	RRJ6GEJ682T	6.8K 1/10
R203	RRJ6GEJ123T	12K 1/10
R204	RRJ6GEJ151T	150 1/10
R208	RRJ6GEJ104T	100K 1/10
R209	RRJ6GEJ103T	10K 1/10
R210	RRJ6GEJ153T	15K 1/10
R212	RRJ6GCJ4R7TE	4.7 1/10
R213	RRJ6GEJ104T	100K 1/10
R214	RRJ6GEJ103T	10K 1/10
R250	RRJ6GEJ512T	5.1K
R251	RRJ6GEJ202T	2K
R252	RRJ6GEJ112T	1.1K
R253	RRJ6GEJ221T	220 1/10
R254	RRJ6GEJ104T	100K 1/10
R255	RRJ6GEJ473T	47K 1/10
R256	RRJ6GEJ333T	33K 1/10
R257	RRJ6GEJ334T	330K 1/6
R258	RRJ6GEJ202T	2K
R259	RRJ6GEJ514T	510K
R260	RRJ6GEJ242T	2.4K
R301	RRJ6GEJ122T	1.2K 1/10
R303	RRJ6GEJ222T	2.2K 1/10
R304	RRJ6GEJ103T	10K 1/10
R306	RRJ6GEJ102T	1K 1/10
R307	RRJ6GEJ472T	4.7K 1/10
R308	RRJ6GEJ822T	8.2K 1/10
R309	RRSL30J472U	4.7K 1/8
R310	RRJ6GEJ472T	4.7K 1/10
R312	RRJ6GEJ562T	5.6K 1/10
R313	RRJ6GEJ103T	10K 1/10
R315	RRJ6GEJ822T	8.2K 1/10
R316	RRJ6GEJ331T	330 1/10
R318	RRJ6GEJ473T	47K 1/10
R319	RRJ6GEJ224T	220K 1/10
R320	RRJ6GEJ154T	150K 1/10
R321	RRJ6GEJ271T	270 1/10
R322	RRJ6GEJ221T	220 1/10
R323	RRJ6GEJ154T	150K 1/10
R324	RRJ6GEJ152T	1.5K 1/6
R325	RRJ6GEJ473T	47K 1/10
R326	RRJ6GEJ472T	4.7K 1/10
R327	RRJ6GEJ472T	4.7K 1/10
R328	RRJ6GEJ473T	47K 1/10
R330	RRJ6GEJ331T	330 1/10
R331	RRJ6GEJ102T	1K 1/10
R332	RRJ6GEJ332T	3.3K 1/10
R333	RRJ6GEJ362T	3.6K 1/10
R334	RRJ6GEJ102T	1K 1/10
R335	RRJ6GEJ270T	27 1/10
R336	RRJ6GEJ682T	6.8K 1/10
R337	RRJ6GEJ222T	2.2K 1/10
R338	RRJ6GEJ221T	220 1/10
R350	RRJ6GEJ392T	3.9K 1/10
R351	RRJ6GEJ330T	33 1/10
R352	RRJ6GEJ223T	22K 1/10
R353	RRJ6GEJ223T	22K 1/10
R354	RRJ6GEJ103T	10K 1/10
CAPACITORS(VALUE,VOLTAGE)		
C100	RCUS1H681KB	680P 50
C101	RCUS1H681KB	680P 50
C102	ECEA0GKS470L	47 4
C103	RCUS1C223KB	0.022 16
C104	ECUV1C105ZF	1 16
C110	ECUV1C105ZF	1 16
C111	RCUS1H102MD	0.001 50
C112	ECUV1C105ZF	1 16
C113	RCUS1H102MD	0.001 50
C114	ECUV1E104MD	0.1 25
C115	ECEA0DPD331I	330 2
C150	RCUS1H562KB	50
C151	RCUS1E103KB	0.01 25
C152	RCUS1H562KB	50
C153	RCUS1H151K	50
C154	RCUS1H562KB	50
C155	ECUV1C105ZF	1 16
C156	RCUV1E473MD	0.047 25
C157	RCSE1AT225LE	2.2 10
C159	RCUV1C224ZF	0.22 16
C160	ECUV1E224ZF	0.22 25
C161	RCSE1AT225LE	2.2 10
C200	RCUS1H681KB	680P 50
C201	RCUS1H681KB	680P 50
C202	ECEA0GKS470L	47 4
C203	RCUS1C223KB	0.022 16
C204	ECUV1C105ZF	1 16
C210	ECUV1C105ZF	1 16
C211	RCUS1H102MD	0.001 50
C212	ECUV1C105ZF	1 16
C213	RCUS1H102MD	0.001 50
C214	ECUV1E104MD	0.1 25
C215	ECEA0DPD331I	330 2
C250	RCUS1H562KB	50
C251	RCUS1E103KB	0.01 25
C252	RCUS1H562KB	50
C253	RCUS1H151K	50
C254	RCUS1H562KB	50
C255	ECUV1C105ZF	1 16
C256	RCUV1E473MD	0.047 25
C257	RCSE1AT225LE	2.2 10
C259	RCUV1C224ZF	0.22 16
C260	RCUV1C224ZF	0.22 16
C261	RCSE1AT225LE	2.2 10
C300	RCUS1H681KB	680P 50
C301	ECEA1CKS100	10 16
C303	ECUV1E104MD	0.1 25
C305	ECUV1C224MD	0.22 16
C306	RCSE0GT475LE	4.7 4
C307	ECEA0GKS470L	47 4
C308	RCSE1AT225LE	2.2 10
C309	ECEA1CKS100	10 16
C310	ECST0GB226	22 4
C311	ECEA0DPD331I	330 2
C315	ECUV1E104MD	0.1 25
C316	ECUV1E104MD	0.1 25
C317	ECUV1E104MD	0.1 25
C318	RCSE1CT105LE	1 16
C319	RCSE1CT105LE	1 16
C321	ECUV1E104MD	0.1 25
C324	ECUV1H182KC	0.0018 50
C325	ECUV1E104MD	0.1 25
C326	ECUV1C105ZF	1 16
C327	RCUS1E103MD	0.01 25
C328	RCUS1E103MD	0.01 25
C329	RCUS1C223MD	0.022 16
C332	ECUV1C105ZF	1 16
C333	RCUS1H102MD	0.001 50
C335	RCUS1C223MD	0.022 16
C336	RCSE0JT475LE	4.7 6.3
C337	ECEA0DV821XI	820 2
C350	ECEA0JKS221	220 6.3
C351	ECUV1C105ZF	1 16
C352	ECEA0DV221XI	220 2
C353	RCSE0GT475LE	4.7 4

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